



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,018	09/24/2003	Shinji Inazawa	51023-016	1811

7590 08/23/2004

McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

LAM, CATHY FONG FONG

ART UNIT	PAPER NUMBER
----------	--------------

1775

DATE MAILED: 08/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/669,018	Applicant(s) INAZAWA ET AL.	
	Examiner Cathy Lam	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9-24-2003</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al (US 6448491) or Yoshida et al (US 5827445) in view of Wang et al (US 6713671).

Sato discloses an electromagnetic interference body that is used for shielding EM wave in printed circuit boards.

The body is comprised of a conductive support (1) and a non-conductive soft magnetic layer (2). The non-conductive soft magnetic layer (2) is disposed onto at least one surface of the conductive support (1) (col 2 L 16-18, Figs. 1 & 2).

The soft magnetic layer (2) is comprised of soft magnetic powder of particles (3) uniformly dispersed in an organic binder (4) (col 3 L 67-col 4 L 3). The magnetic powders are Fe-Ni alloy material and are oxidized at its surface (col 5 L 26-31).

The conductive support (1) can be a polyimide base member (5) coated with a conductive titanium oxide (8) and organic binder (4) (Fig. 4 & col 5 L 45-48). The non-conductive soft magnetic layer (2) is formed onto at least one surface of the coated support (1) (col 4 L 42-45).

The examiner takes the position that the conductive titanium oxide (8) in the organic binder (4) is analogous to the adhesive layer of a metal oxide as claimed.

Art Unit: 1775

Sato however is silent about the average diameter of the magnetic powder particles and the magnetic layer, nor has magnetic layers and electrically insulation layers arranged in an alternate stacked manner.

Yoshida teaches a composite magnetic article used for shielding an electromagnetic interference is comprised of soft magnetic powder and an organic binder.

The magnetic powder is Fe-Ni alloy material and is coated with a metal oxide such as aluminum oxide and silicon oxide (col 3 L 67- col 4 L 1 & L 60-67). The magnetic powder is mixed and dispersed in the organic binder to form a desired shape (col 5 L 18-21).

Yoshida further discloses that the complex magnetic permeability which involves a real part μ' and an imaginary part μ'' (col 1 L 42-61). The magnetic resonance frequency ranges from 10 MHz to 50 MHz (col 8 Table 1).

Yoshida teaches the present invention but is silent about the size of the magnetic powder particles and the magnetic layers and electrically insulation layers in an alternate stacked arrangement.

Wang discloses an EM shielding assembly comprised of a substrate and a layer of ferrite magnetic material (24).

The substrate which can be a conductive layer (14,16) is coated with an insulating material (44,46) prior to coating of the ferrite magnetic material (24) (Fig. 2, col 6 L 28-32). The ferrite magnetic material is nano-magnetic material having an average particle size less than 100 nm (col 5 L 43-46).

Art Unit: 1775

The nano-magnetic particle (24) is typically iron, cobalt and/or nickel, etc. (col 7 L 50-51). The nano-magnetic particles (24) are disposed within an insulating matrix, which can be silica or alumina (col 7 L 39-44).

Additional insulating layers can be coated onto the nano-magnetic particle layer (Fig. 3, col 6 L 38-42).

In view of the prior art teachings, one skill in the art would fabricate an EM shield which contains electrically insulation layers and magnetic layers in an alternate arrangement and all formed over a titanium adhesive layer coated insulating layer because adding more magnetic layers and insulating layer would attenuate the EM interference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cathy Lam whose telephone number is (571) 272-1538. The examiner can normally be reached on 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1775

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cathy Lam
Primary Examiner
Art Unit 1775

cfl
August 13, 2004